

IN THE CLAIMS:

1. (Currently amended) A lithographic projection apparatus comprising:
~~a radiation system to provide a projection beam of radiation;~~
~~a support structure to support beam~~ patterning structure which can be used to pattern
the a projection beam according to a desired pattern;
a substrate table to hold a substrate;
a projection system to image the patterned beam onto a target portion on a first side of
the substrate;
an alignment system, located on a same side of the substrate as the projection system,
to align a pattern of the patterning structure with an alignment mark provided on the
substrate, using alignment radiation; and
an optical system to transmit an image of the alignment mark from a side of the
substrate opposite the target portion for use by the alignment system,
wherein the optical system is arranged to provide an image of said alignment mark in
a plane which is substantially perpendicular to an optical axis of the alignment system, the
image being located outside of a perimeter of the substrate.
2. (Original) An apparatus according to claim 1, wherein said optical system is
arranged to transmit an image of said alignment mark at a plane of the first side of the
substrate.
3. (Currently amended) An apparatus according to claim 1, wherein said optical
system is constructed and arranged to transmit a plurality of images, each image
corresponding to a respective one of a plurality of alignment marks.
4. (Currently amended) An apparatus according to claim 1, wherein said optical
system comprises at least two mirrors and two lenses.
5. (Original) An apparatus according to claim 1, wherein said optical system
comprises at least one optical fiber.

6. (Currently amended) An apparatus according to claim 1, wherein the optical system is arranged to provide the image at a location displaced laterally from the corresponding alignment mark and beyond the periphery of the area to be occupied by the substrate.

7. (Currently amended) An apparatus according to claim 1, wherein said alignment mark is on the side of the substrate opposite the target portion.

8. (Original) An apparatus according to claim 7, wherein said alignment system is adapted to perform alignment using a reference mark provided on the first side of the substrate in addition to using said alignment mark image provided by said optical system.

9. (Currently amended) An apparatus according to claim 1, wherein said alignment mark is on the first side of the substrate, said alignment radiation is substantially transmissible through the substrate, and said alignment radiation is transmitted through the substrate during alignment of the patterning structure with the alignment mark.

10. (Original) An apparatus according to claim 9, wherein the alignment radiation comprises infra-red radiation.

11. (Original) An apparatus according to claim 1, wherein the alignment radiation and the projection beam have substantially the same wavelength.

12. (Currently amended) A device manufacturing method comprising:
projecting a patterned beam of radiation onto a target area of a layer of radiation-sensitive material on a first side of a substrate;
aligning a pattern of a patterning structure with an alignment mark provided on the substrate;
transmitting an image of said alignment mark from a side of the substrate opposite the target, for use in the aligning; and
aligning with an alignment system said image of said alignment mark with the pattern of the patterning structure used in the projecting of the patterned beam of radiation with a projection system,

wherein said image of said alignment mark is in a plane which is substantially perpendicular to an optical axis of the alignment system and is located outside of a perimeter of the substrate, and

wherein the alignment system and the projection system are located on a same side of the substrate.

13. (Original) A method according to claim 12, further comprising:
turning over the substrate so that said first side and said second side are swapped; and
repeating the aligning.

14. (Original) A device manufactured according to the method of claim 12.

15. (Currently amended) A substrate to be imaged by a lithographic projection apparatus, comprising:

a first side including a target portion at least partially covered with a photosensitive material;

a second side opposite to the side including the target portion, the second side having an alignment mark for use with an alignment system of the lithographic projection apparatus,
wherein the first side further includes an alignment mark for use with the alignment system of the lithographic projection system.

16. (Cancelled).

17. (New) A lithographic projection apparatus comprising:
a patterning structure which can be used to pattern a projection beam according to a desired pattern;
a movable substrate table to hold a substrate;
a projection system to image the patterned beam onto a target portion on a first side of the substrate; and
an alignment system to align a pattern of the patterning structure with an alignment mark provided on the substrate, using alignment radiation,

wherein the movable substrate table comprises an optical system to transmit an image of the alignment mark, for use by the alignment system, from a side of the substrate opposite the target portion.

18. (New) An apparatus according to claim 17, wherein said optical system is arranged to transmit an image of said alignment mark at a plane of the first side of the substrate.

19. (New) An apparatus according to claim 17, wherein said optical system is constructed and arranged to transmit a plurality of images, each image corresponding to a respective one of a plurality of alignment marks.

20. (New) An apparatus according to claim 17, wherein said optical system comprises at least two mirrors and two lenses.

21. (New) An apparatus according to claim 17, wherein said optical system comprises at least one optical fiber.

22. (New) An apparatus according to claim 17, wherein the optical system is arranged to provide the image at a location displaced laterally from the corresponding alignment mark and beyond the periphery of the area to be occupied by the substrate.

23. (New) An apparatus according to claim 17, wherein said alignment is on the side of the substrate opposite the target portion.

24. (New) An apparatus according to claim 17, wherein said alignment system is adapted to perform alignment using a reference mark provided on the first side of the substrate in addition to using said alignment mark image provided by said optical system.

25. (New) An apparatus according to claim 24, wherein said alignment mark is on the first side of the substrate, said alignment radiation is substantially transmissible through the substrate, and said alignment radiation is transmitted through the substrate during alignment of the patterning structure with the alignment mark.

26. (New) An apparatus according to claim 25, wherein the alignment radiation comprises infra-red radiation.

27. (New) An apparatus according to claim 17, wherein the alignment radiation and the projection beam have substantially the same wavelength.

28. (New) An apparatus according to claim 1, wherein the optical system is arranged such that the image of said alignment mark has substantially the same dimensions as an alignment mark provided on a side of the substrate where the target portions are located.

29. (New) A method according to claim 12, wherein the substrate is provided with another alignment mark on a side of the substrate where the target portions are located, and the image of said alignment mark has substantially the same dimensions as said other alignment mark.